Observability Analysis For State Estimation Using Linearprogramming

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Summary

The linear programming technique is used to analyse the observability of power system state estimation networks. This technique has the capability of identifying the observable islands of the system network. It can also identify the necessary branches or nodes needed for pseudomeasurement placement to recover the overall system observability. The technique manipulates only integer numbers. It uses the network connectivity matrix and the measurement Jacobian matrix as equality constraints. Computational aspects of the proposed technique are presented and results of several examples are reported